

REMARKS/DISCUSSION OF ISSUES

The Examiner is respectfully requested to acknowledge acceptance of the drawings.

Claims 1-19 and 31-36 are pending in the application. Claims 1-19 and 30 are rejected. Claims 1, 3 and 16 have been amended. New claim 36 has been added.

Claims 31-34 (sic) are made subject to an election requirement.

The Examiner has stated that claims 32-35 were renumbered as claims 31-34. However, the claims newly submitted by Applicant in the prior amendment were claims 31-35, not claims 32-35. Thus, it is presumed that the present restriction applies to claims 31-35 as presented in the prior amendment, not to claims 31-34 as incorrectly renumbered by the Examiner.

The restriction requirement is based on the provisions of MPEP 821.03, which provides that claims presented after an Office action should be withdrawn if directed to an invention which is separate and distinct from the invention to which the elected claims are drawn.

Claims 31-35 are drawn to a discharge lamp of the same type claimed in elected claims 1-19. They are not drawn to a method, as were the non-elected claims 20-30. Claims 31-35 are not drawn to a separate and distinct invention, but to various features of the elected invention. Thus, the restriction requirement is in error and should be withdrawn.

Claims 1-19 and 30 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Van Vliet et al, U.S. 5,973,453 in view of Krasko et al, U.S. 5,694,002.

This rejection was previously applied to claims 1-16, not to claims 17-19 and 30. While claims 17-19 were previously

rejected under Sections 101, the judicially-created doctrine of double patenting, and Section 112, these rejections have been overcome. Claims 17-19 are now rejected under 35 USC 103(a) for the first time, and thus the finality of the present Office action is improper, at least with respect to the rejection of these claims, and should be withdrawn.

With respect to the merits of this rejection, the Examiner has stated that Applicant's prior arguments were not persuasive because: (a) Applicant has not claimed any structural limitations to enhance the luminescence of the bulb; (b) the skilled artisan would have been 'highly motivated' to improve the vessel design of Krasko with Van Vliet to improve color rendition and luminous output; and (c) Krasko discloses the use of metal halides in a ceramic quartz vessel, citing col. 2, lines 50-56.

With respect to claim 3 and its dependent claims 4-16 (claim 16 has been amended to delete dependency on claim 1, and new claim 36 has been added to restore the coverage lost by the amendment of claim 16), Applicant has claimed structural limitations related to the discharge vessel, and specifically to the arc tube and the associated four-part feedthrough assembly.

Claim 3 has been amended to improve its form and to clarify its meaning. The claim now makes apparent that the discharge vessel comprises a ceramic arc tube with central barrel, end walls and end plugs, and also comprises feed through assemblies each comprising a lead-in of niobium which is hermetically sealed into the arc tube, a central portion of molybdenum/aluminum cermet, a molybdenum rod portion and an electrode comprising a tungsten rod having a winding of tungsten.

Neither of the cited references teach or suggest such a lamp having a four-part lead through assembly.

Van Vliet teaches a ceramic metal halide discharge lamp having a three-part leadthrough assembly including a Nb lead-in (40,50), a Mo/alumina cermet (41,51) and a refractory electrode (4,5) including a coil (4c,5c).

Krasko teaches a metal halide lamp having a quartz discharge tube rather than a ceramic discharge tube. Regarding the assertion that Krasko discloses the use of metal halides in a 'ceramic quartz' vessel, this is not a term of art. Ceramic and quartz vessels are distinct entities having significantly different characteristics. For a discussion of the differences between quartz and ceramic discharge lamps, see the first paragraph of the Background of the Invention section bridging pages 1 and 2 of Applicant's specification. Moreover, Krasko is concerned with the chemical fill inside the discharge space, and teaches nothing with respect to the composition of the electrical leads (26,28).

Regarding the Examiner's assertion regarding the motivation of the skilled artisan, such motivation cannot come from the artisan himself. Patentability under Section 103 must be judged in light of the motivation provided by the teachings of the applied prior art references, and neither Van Vliet nor Krasko provide any such motivation.

Accordingly, neither of the cited references teach or suggest, alone or in combination, a ceramic discharge lamp with a four-part feedthrough assembly, and claim 3 and its dependent claims 4-16 are patentable over Van Vliet in view of Krasko. Accordingly, it is urged that the rejection is in error and should be withdrawn.

With respect to claims 1 and 2, claim 1 has been amended
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to specify the salt mixture present in the discharge vessel, i.e., sodium iodide, calcium iodide, thallium iodide and one or more rare earth iodides. Support for this amendment may be found, e.g., at page 10, lines 6-8 and page 16, lines 27 and 28. The salt mixture is specially designed for the power range and arc tube geometry used for this product family.

None of the applied references teach or suggest such a salt mixture.

Van Vliet teaches a mixture of sodium iodide and cerium iodide. See, e.g., col. 2, line 20. Krasko teaches a fill including the halides of sodium, scandium, lithium, dysprosium and thallium. See, e.g., col. 1, lines 63 and 64. Van Der Leeuw teaches a mixture of sodium iodide and scandium iodide. See, e.g., col. 7, line 44.

While the prior art mixtures all contain a sodium halide, none teach or suggest calcium iodide or the particular combination of iodides of sodium, calcium, thallium and at least one rare earth taught and now claimed by Applicant.

Accordingly, it is urged that claims 1 and 2 are patentable over the teachings of the applied references, and that the rejection should be withdrawn.

Claims 3-16 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Van Vliet et al, U.S. 5,973,453 in view of Van Der Leeuw et al, U.S. 5,532,543.

Neither of the cited references teach or suggest such a lamp having a four-part lead through assembly.

As already stated, Van Vliet teaches a ceramic metal halide discharge lamp having a three-part lead through assembly including a Nb lead-in (40,50), a Mo/alumina cermet (41,51) and a refractory electrode (4,5) including a coil (4c,5c).

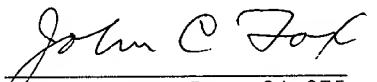
Van Der Leeuw, like Krasko, discloses a quartz metal
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halide lamp, not a ceramic metal halide lamp. See, e.g., col. 5, line 29. Moreover, Van Der Leeuw shows a feedthrough assembly (see, e.g., Fig. 3) which includes a feedthrough of Mo wire connected to an electrode 15 of conventional design. See col. 5, line 46 and col. 6, lines 52, 53.

Accordingly, neither of the cited references teach or suggest, alone or in combination, a ceramic discharge lamp with a four-part feedthrough assembly, and claim 3 and its dependent claims 4-16 are patentable over Van Vliet in view of Van Der Leeuw. Accordingly, it is urged that the rejection is in error and should be withdrawn.

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejection of record, allow all of the pending claims, and find the application to be in condition for allowance.

Respectfully submitted,


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